AMENDMENTS TO THE CLAIMS

Following is a current listing of all claims, as amended herein.

1. *(currently amended)* A system for maintaining a flexible dipole antenna in a substantially vertical orientation and at a substantially constant depth when towed submerged in water, comprising:

(a) a source of vertical tension on the antenna;

(b) a towline attached to a tow vessel at one end, said towline having a length determined by the constant depth;

(c) a negatively buoyant tow body attached to the other end of the towline and to the antenna;

(d) a source of a balancing force to make the net vertical force on the submerged antenna substantially zero; and

(e) at least two tag lines interposed between the antenna and the tow body, each tag line being attached at one end to the tow body and at the other end to separated locations on the antenna.

2. *(original)* The system of claim 1, wherein the source of vertical tension is an upward force source and an offsetting downward force source, said two forces having magnitudes sufficiently large to pull the antenna into substantially vertical configuration, and differing in magnitude by an amount substantially equal to said balancing force.

3. *(original)* The system of claim 2, wherein the upward force source is at least one of the following sources of force, attached to one end of the antenna:

(a) a kite;

(b) a parachute;

(c) a thruster;

(d) a water wing;

(e) a buoyancy device;

(f) the towline;

and the downward force source is at least one of the following sources of force, attached to the other end of the antenna:

(a) a weight;

(b) a thruster;

(c) a water wing.

4. *(canceled)*

5. *(currently amended)* The system of claim 1 [[4]], wherein there are two tag lines of substantially equal length, each attached to a different end of the antenna.

6. *(original)* The system of claim 5, further comprising a third tag line, attached at one end to the antenna substantially at the antenna's mid-point, and at the other end to the tow body, the length of said third tag line being determined by verticality considerations.

7. *(currently amended)* A system for maintaining a flexible dipole antenna in a substantially vertical orientation and at a substantially constant depth when towed submerged in water, comprising:

(a) a source of vertical tension on the antenna;

(b) a towline attached to a tow vessel at one end, said towline having a length determined by the constant depth;

(c) a negatively buoyant tow body attached to the other end of the towline and to the antenna;

(d) a source of a balancing force to make the net vertical force on the submerged antenna substantially zero; and

(e) a tag line interposed between the tow body and one end of the antenna and attached to each, and a second tag line connecting the other end of the antenna and a point on the towline, said point on the tow line being determined such that the tag lines

are substantially horizontal, said tag lines having relative lengths determined by verticality considerations when the antenna is towed.

8. *(original)* The system of claim 1, wherein the antenna is a variable density antenna, said density variability being designed to provide the vertical tension and the balancing force.

9. *(original)* The system of claim 1, wherein the tow body provides a place for equipment such as communication, positioning and measurement equipment.

10. *(currently amended)* A method for maintaining a flexible dipole antenna in a substantially vertical orientation and at a substantially constant depth when towed submerged in water, comprising:

(a) providing vertical tension to the antenna;

(b) attaching one end of a towline to a tow vessel and the other end to a negatively buoyant tow body, said tow line having a length determined by said constant depth;

(c) attaching the antenna to the tow body;

(d) balancing the vertical forces on the submerged antenna to a substantially zero net force; and

(e) interposing at least two tag lines between the tow body and the antenna, each tag line being attached at one end to the tow body and at the other end to separated locations on the antenna.

11. *(original)* The method of claim 10, wherein the vertical tension and the balancing force are provided by an upward force and an offsetting downward force, said upward and downward forces being sufficiently large to pull the antenna into a substantially vertical position, and being sufficiently different to substantially balance the vertical forces on the antenna.

12. *(original)* The method of claim 11, wherein the upward force is provided by at least one of the following, attached to one end of the antenna:

(a) a kite;

(b) a parachute;

(c) a thruster;

(d) a water wing;

(e) a buoyancy device;

(f) the towline;

and the downward force is provided by at least one of the following, attached to the other end of the antenna:

(a) a weight;

(b) a thruster;

(c) a water wing.

13. *(canceled)*

14. *(original)* The method of claim 10, wherein the vertical tension and the balancing force are provided by using a variable density antenna.

15. *(new)* The method of claim 10, wherein there are two tag lines of substantially equal length, each attached to a different end of the antenna.

16. *(new)* The method of claim 15, further comprising a third tag line, attached at one end to the antenna substantially at the antenna's mid-point, and at the other end to the tow body, the length of said third tag line being determined by verticality considerations.

CONCLUSION

The claims as amended herein are believed to be in condition for allowance. Accordingly, the applicants respectfully request allowance of claims 1-3, 5-12, and 14-16.

Respectfully submitted,

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